SERVICE MANUAL

FISHER

MT-750

Random Access
Linear Tracking Turntable

(EUROPE)

134 080 50

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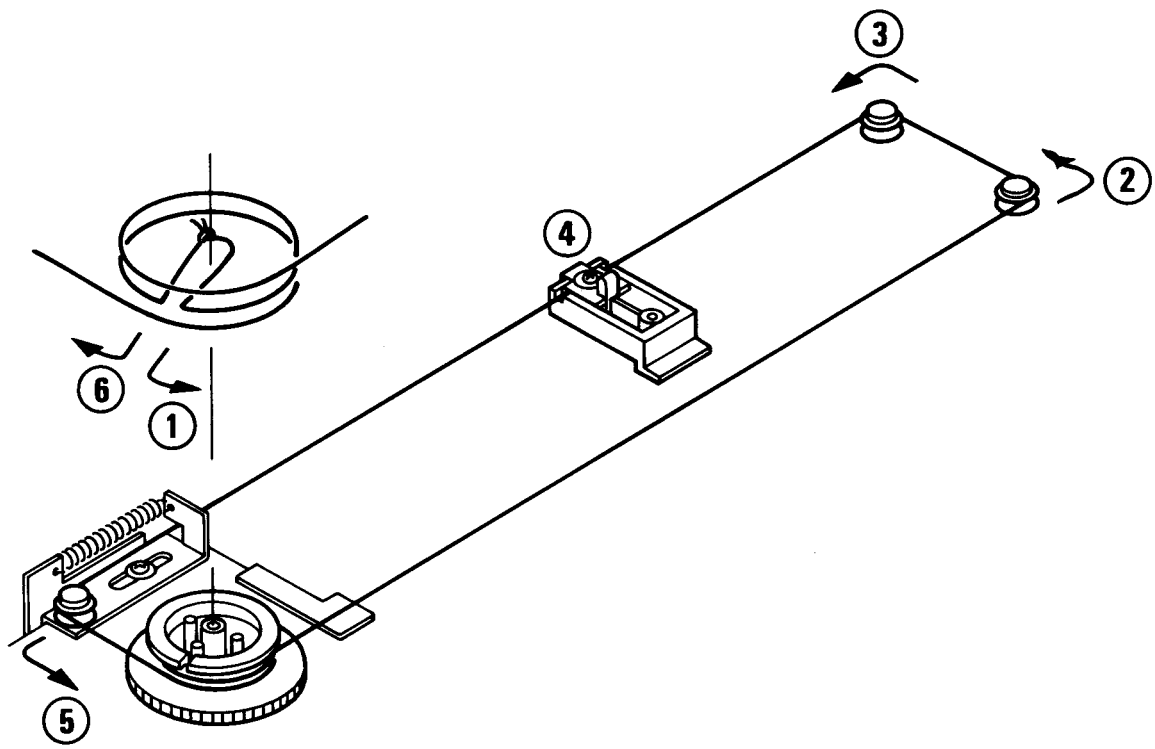
ARM FEED CORD STRINGING



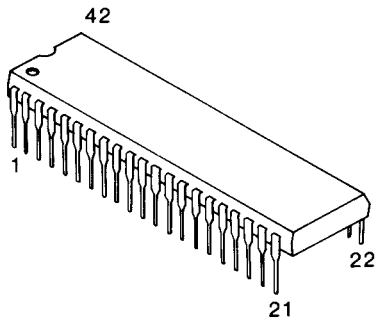
SPECIFICATIONS

TURNTABLE		MT-750
Motor		Quartz Locked FG Servo
Drive System		Direct
Wow and Flutter (WRMS)		0.035 %
Rumble (DIN 45539B)		−70 dB
Speed Variation		±1.5 %
Tracking Force		2 g
Platter Diameter		12-1/8"
Platter Weight		1.4 lbs.
Record Speed Selector		33-1/3 rpm/ 45 rpm
Auto Function		
	Start	Yes
	Repeat	Yes
	Reject	Yes
Automatic Tonearm Return at End of Record		Yes
Manual Function		
	Start	Yes
	Stop	Yes
Tonearm Data		
	Resonance	<18 Hz
	Effective Length	130 mm
	Shape	Straight
Bearing Type		
	Horizontal Friction Sensitivity	Pivot 0.15 g
	Vertical Friction Sensitivity	Pivot 0.2 g
Max. Tracking Error		±0.2°
Cueing		Motor Drive
GENERAL Power Requirements (50 Hz)		AC 110/220V
Power Consumption		15 W
Dimensions (W x H x D)		440 x 98 x 355 mm
Weight (approx.)		5 kg

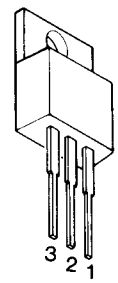
Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

SEMICONDUCTOR LEAD IDENTIFICATION

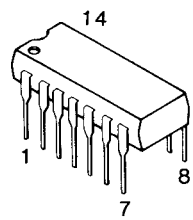
INTEGRATED CIRCUITS



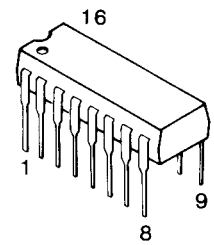
- LM 6402 A



- NJM 7812
- NJM 7912
- L 78 M05

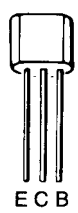


- MSM 4049 RS

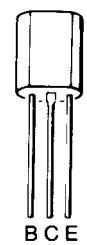


- LA 6324

TRANSISTORS

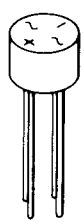


- 2SA 608
- 2SC 536

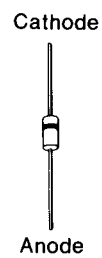


- 2SB 764
- 2SD 863

DIODES



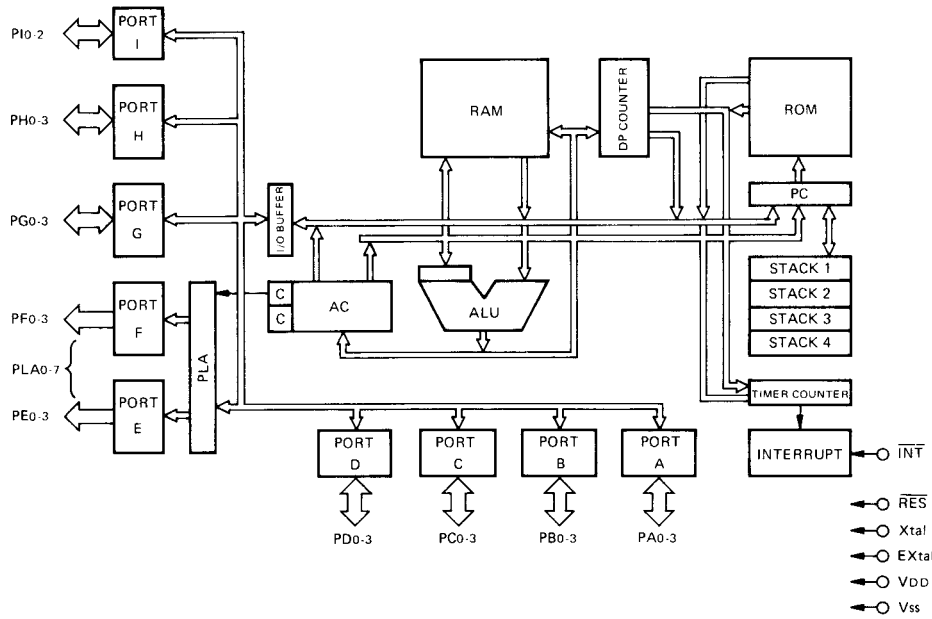
- W 02



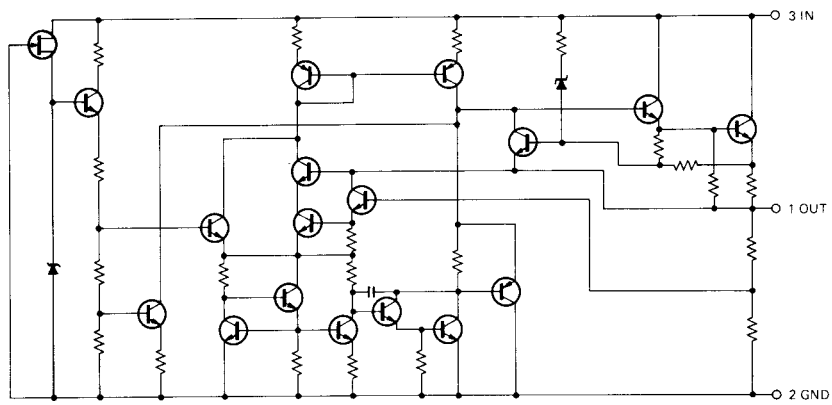
- DS 135 D
- DS 442
- GMA 01
- GZA 10 Y

IC SIGNAL FLOW & EQUIVALENT CIRCUIT

LM 6402 A



NJM 7812, L 78 M05



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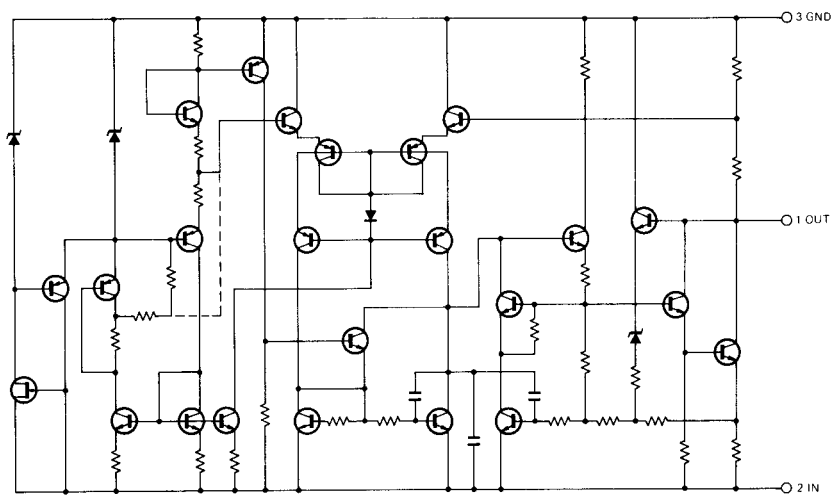
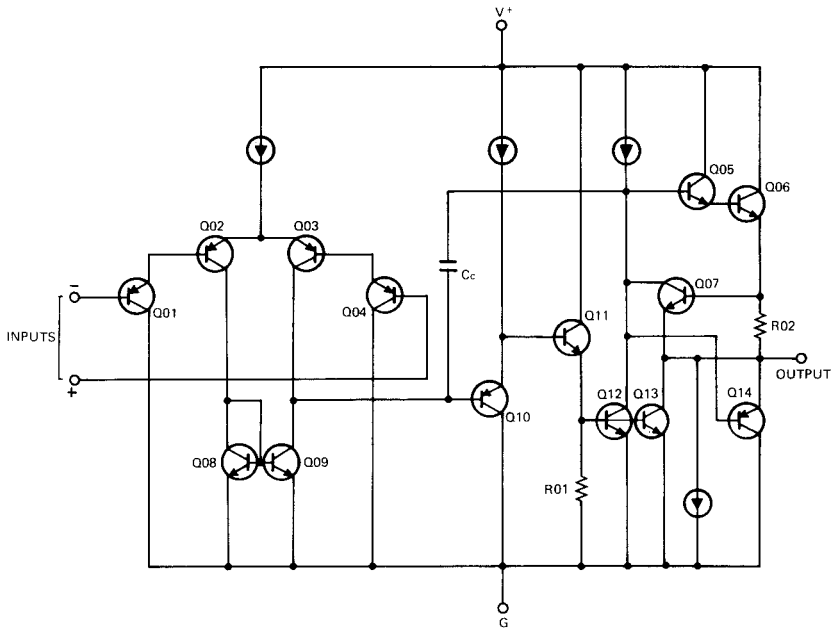
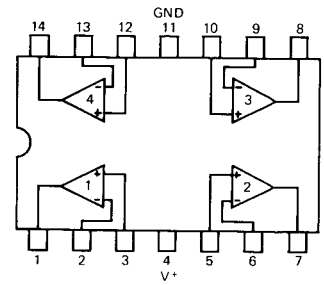


IC SIGNAL FLOW & EQUIVALENT CIRCUIT (Continued)

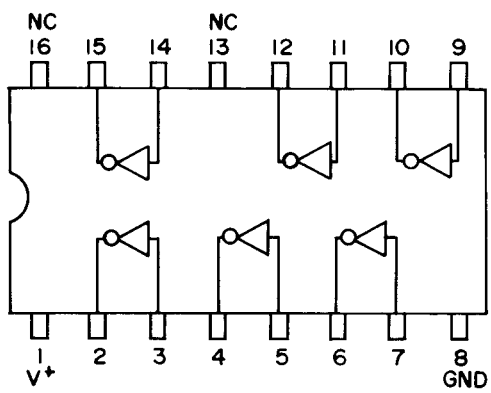
LA 6324

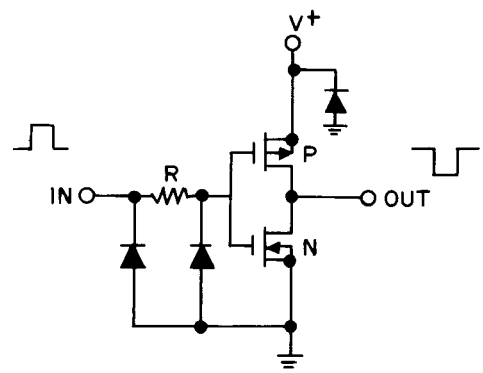


TOP VIEW

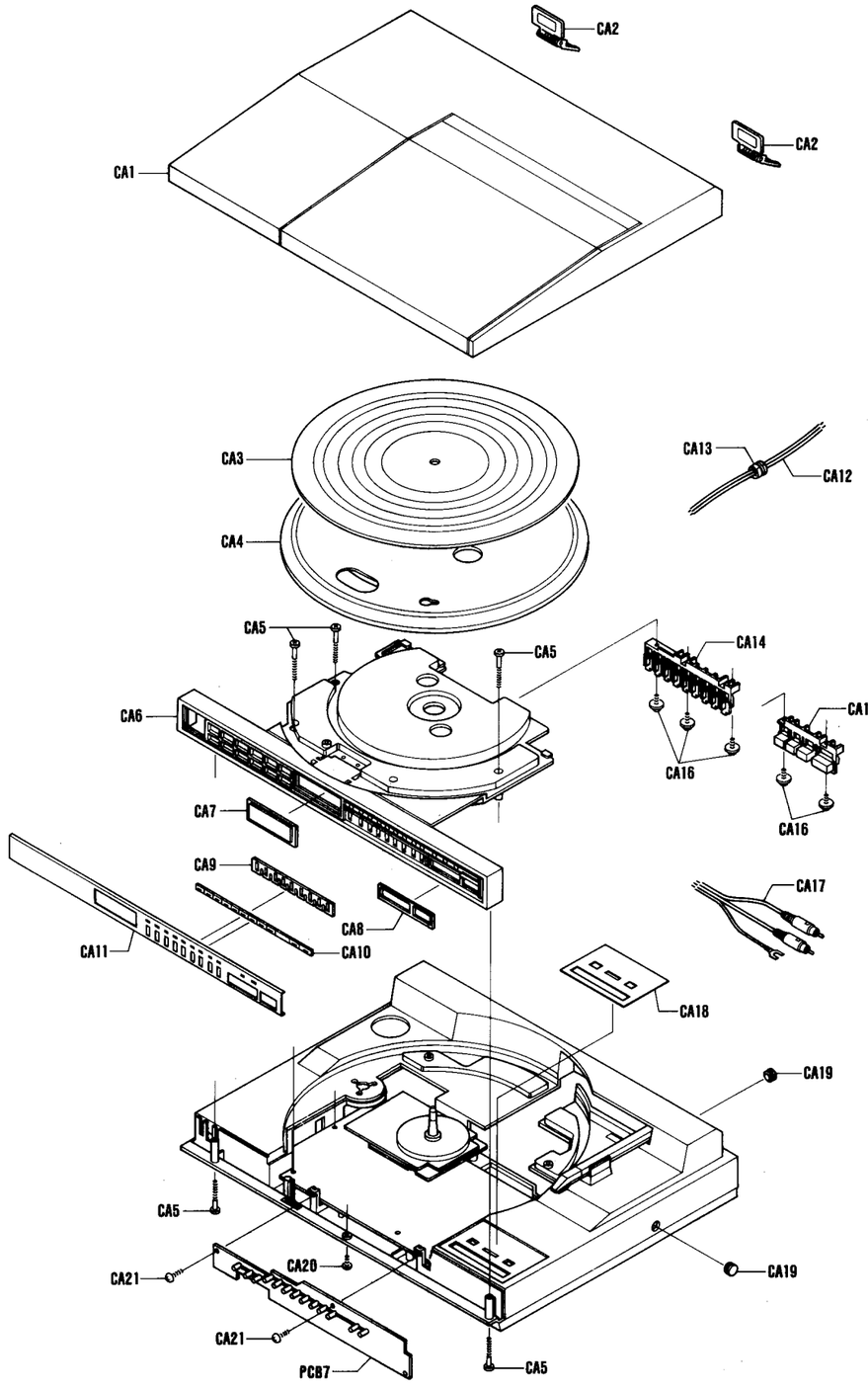


MSM 4049 RS

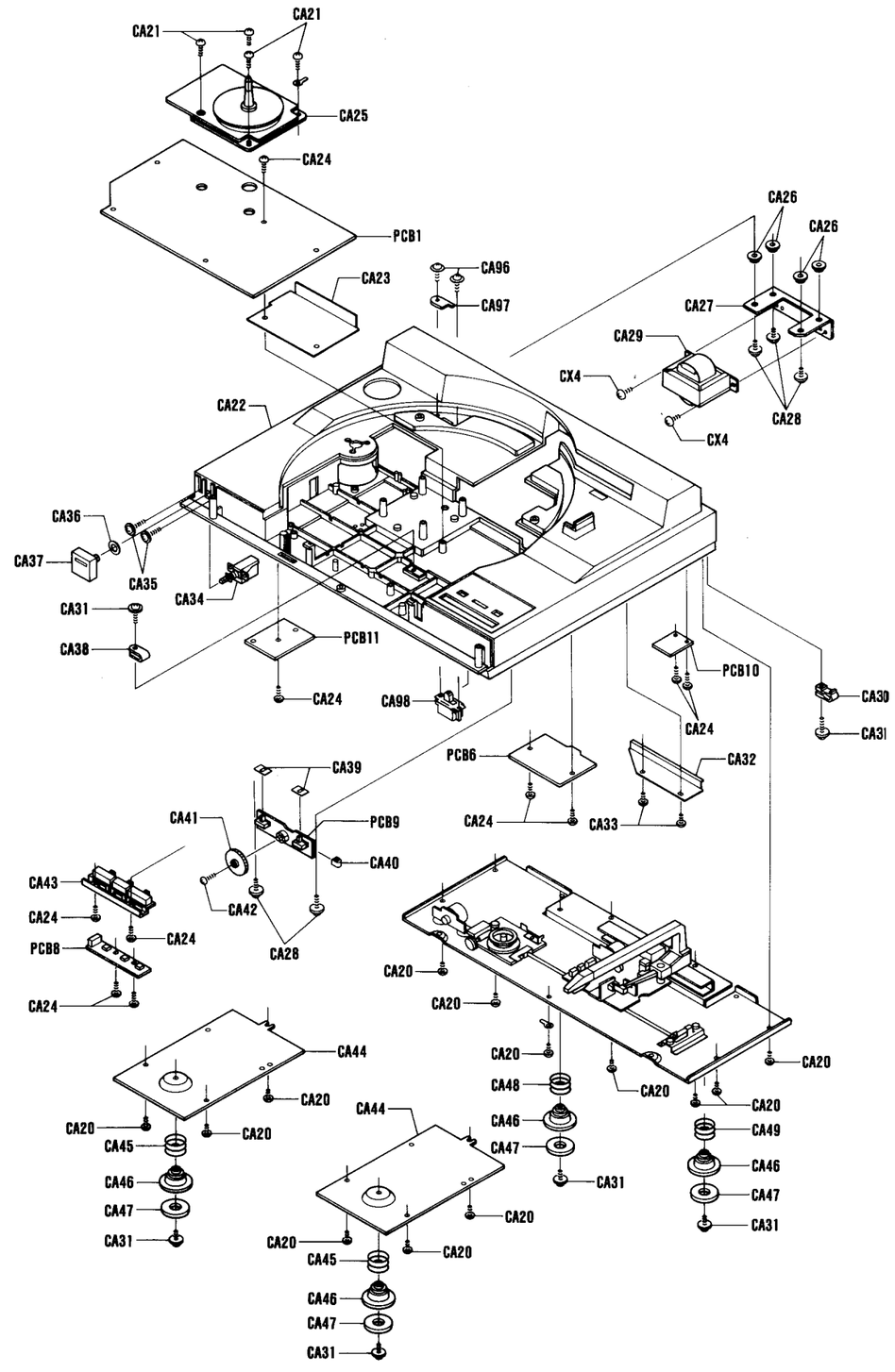




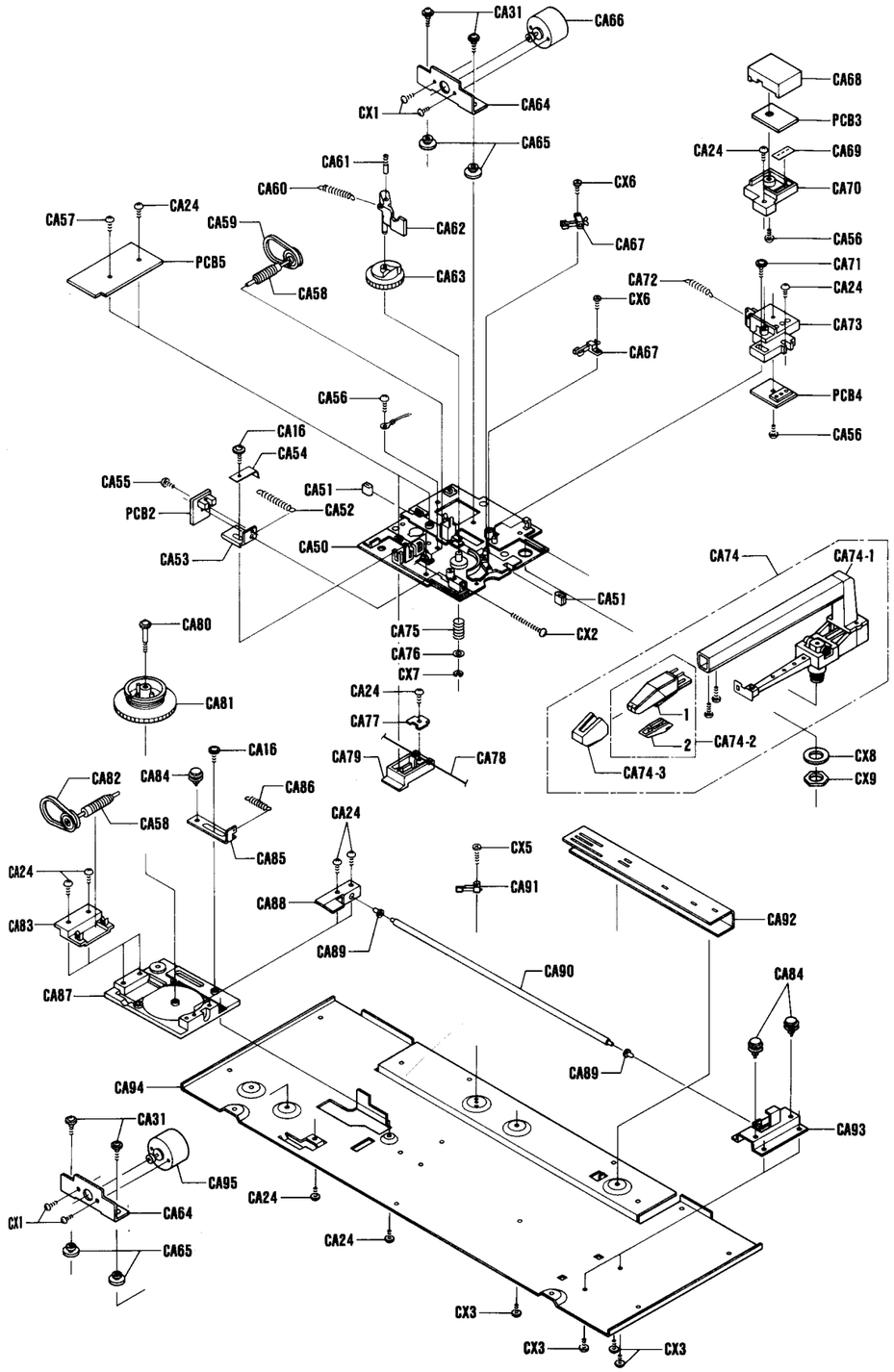
CABINET & TURNTABLE EXPLODED VIEW (1)



CABINET & TURNTABLE EXPLODED VIEW (2)



CABINET & TURNTABLE EXPLODED VIEW (3)



CABINET & TURNTABLE PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	131 2 3901 10300	Staple SS19MM	8
	131 6 2519 00201	Bag Polyethylene Ind	1
	131 6 3069 17500	Patching Sheet	1
	131 6 4159 10106	Notes	3
	131 6 4559 10900	Manufacturing No.	2
	134 2 2104 12300	Screw Transit(+,-)	3
	134 2 4208 15100	Spacer	3
	141 2 4219 32700	Screw Transit	1
	141 6 1139 98402	Box Corrugate-exp	1
	141 6 2519 19490	Bag Polyethylene-exp	1
	141 6 3119 23401	Pad	1
	141 6 3119 24900	Pad Front	1
	141 6 3119 25000	Pad Rear	1
	141 6 3119 25100	Pad	1
	ACCESSORIES		
	4 2369 74031	Plug Cord	1
	131 2 3901 10400	Staple No.10	1
	131 6 2719 10801	Bag Fan	1
	131 6 4519 15700	Guarantee Cert	1
	131 6 4559 10900	Manufacturing No	1
	134 2 2901 11601	Adapter Ep	1
	142 6 4119 32156	Explanatory Booklet	1
	CABINET		
	4 2359 75222	Connector 12P Assy [CN9]	1
	4 2359 76794	Connector 3P Assy [CN13]	1
	4 2359 77145	Connector 1P Assy	1
	4 2359 77631	Connector 1P Assy	1
	131 2 1310 34634	Name Plate	1
	131 2 3608 14100	Cramp Wire	4
	131 2 7103 46800	Label	1
	131 2 7103 47900	Label	1
	131 6 4559 10900	Manufacturing No	1
	141 6 4729 37447	Stylus Label	1
CA1	141 0 1249 30600	Lid Assy	1
CA2	131 0 2002 16800	Hinge Assy	1
CA3	141 2 4429 00201	Mat Turntable	1
CA4	141 2 5229 00401	Turntable	1
CA5	131 2 4201 20702	Screw, +M3.0x35	5
CA6	141 2 1219 29500	Panel Front	1
CA7	141 2 1329 14200	Filter	1
CA8	131 2 6113 51000	Shelter	1
CA9	131 2 6113 51100	Shelter	1
CA10	141 2 1329 14300	Filter	1
CA11	141 2 1439 14100	Panel Control	1
CA12	⚠ 4 2432 00071	Power Cord	1
CA13	131 2 6111 21300	Bushing	1
CA14	141 2 1659 35600	Knob	1
CA15	141 2 1659 35800	Knob	1
CA16	131 2 4201 21100	Screw	7
CA17	131 0 4004 16101	Wire Shield Assy	1
CA18	141 2 1439 13900	Panel Control	1
CA19	131 2 2904 11000	Pad Lid	2
CA20	131 2 4201 20705	Screw, Bdg Hd. Tapping	14
CA21	131 2 4201 23703	Screw	6
CA22	141 2 1129 08801	Cabinet	1
CA23	141 2 1149 37400	Cover PCB	1
CA24	131 2 4201 19501	Screw, Button Hd. Tapping	19
CA25	134 0 5011 03600	Motor Assy (Phono) [M1]	1
CA26	141 2 4459 31800	Cushion	4

Ref. No.	Part No.	Description	Q'ty
CA27	141 2 3719 06200	Metal Mount Trans	1
CA28	131 2 4201 25205	Screw	5
CA29	⚠ 4 2512 30420	Power Trans [T1]	1
CA30	131 2 3608 12405	Cramp Wire	1
CA31	134 2 4201 13400	Screw	8
CA32	141 2 1149 39400	Cover	1
CA33	131 2 4201 20801	Screw, +M2.6x8	2
CA34	⚠ 4 2312 06051	Switch Push Power [S4]	1
CA35	131 2 4201 20300	Screw TP	2
CA36	131 2 4203 84507	Washer Plain, M4.5x10x0.5	1
CA37	131 2 1601 85202	Knob Power	1
CA38	131 2 3608 11000	Cramp Wire	1
CA39	141 2 4419 21100	Cloth	1
CA40	134 2 5205 12000	Cushion	2
CA41	131 2 1601 59501	Knob	1
CA42	131 2 4201 24600	Screw	1
CA43	141 2 1659 35700	Knob	1
CA44	141 2 1259 07300	Plate Bottom	2
CA45	141 2 8559 06505	Spring Mounting	2
CA46	141 2 4459 31700	Cushion(Leg)	4
CA47	131 2 5203 23603	Felt	4
CA48	141 2 8559 06506	Spring Mounting	1
CA49	141 2 8559 06501	Spring Mounting	1
CA50	141 0 3129 01900	Unit Plate Assy	1
CA51	141 2 4459 33800	Cushion	2
CA52	141 2 8519 31900	Spring, Slide Base	1
CA53	141 2 3519 67400	Angle Mount(Photo C)	1
CA54	141 2 8539 53800	Spring Plate	1
CA55	131 2 4201 20800	Screw, +M2.6x6	1
CA56	131 2 4201 19500	Screw, Button Hd. Tapping	3
CA57	131 2 4201 19504	Screw, Button Hd. Tapping	1
CA58	141 0 5519 10300	Worm Assy	2
CA59	141 2 5649 22600	Belt	1
CA60	141 2 8519 60000	Spring Plate	1
CA61	134 2 4201 12800	Screw	1
CA62	141 2 7519 64000	Spindle Lifting	1
CA63	141 2 5519 52100	Worm Wheel(A)	1
CA64	141 2 3519 67100	Angle Mount(Motor)	2
CA65	141 2 4459 31800	Cushion	4
CA66	4 5272 00181	Comutate MTR Magnet (Arm [M3]	1
CA67	4 2319 76680	Leaf Switch (Lift Up) [S1]	1
CA67	4 2319 76680	Leaf Switch (Lift Down) [S2]	1
CA68	141 2 3519 66900	Cover(Holder)	1
CA69	141 2 3519 67500	Plate(Filter)	1
CA70	141 2 3519 66800	LED Holder	1
CA71	141 2 4219 06300	Screw	1
CA72	134 2 5101 32400	Spring	1
CA73	141 2 3519 67000	LED Holder Base	1
CA74	141 0 6419 01200	Pick-up Assy	1
CA74-1	141 0 6419 01300	Tone Arm Assy	1
CA74-2	4 1579 70030	Cartridge Assy	1
1	4 1579 70040	Cartridge (MG-102S)	1
2	4 1579 70050	Stylus (ST-102SD)	1
CA74-3	141 2 6459 00300	Retainer Needle	1
CA75	134 2 5101 26500	Spring	1
CA76	141 2 4579 05000	Washer, M3.2x10x0.2	1
CA77	141 2 3519 70300	Angle Mount	1
CA78	131 2 4112 10200	Rope	
CA79	141 2 7319 58000	Holder Slide	1
CA80	134 2 4106 27000	Shaft	1
CA81	141 2 5519 52200	Worm Whell(B)	1
CA82	141 2 5649 24700	Belt	1
CA83	141 2 5739 07000	Support Shaft	1
CA84	131 0 3020 11800	Pully Assy	3

CABINET & TURNTABLE PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
CA85	141 2 3519 69000	Angle Mount	1
CA86	141 2 8519 33300	Spring, Lock Caset Case	1
CA87	141 2 3169 23200	Frame	1
CA88	141 2 3519 69100	Angle Mount	1
CA89	141 2 4459 33200	Cushion	2
CA90	141 2 5289 01600	Rail	1
CA91	4 2319 77560	Leaf Switch (Return) [S3]	1
CA92	141 2 3169 22200	Guide Angle	1
CA93	141 2 3519 72200	Angle Mount	1
CA94	141 2 1259 07401	Plate Bottom	1
CA95	4 5272 00180	Comutate MTR Magnet (Lifter) [M2]	1
CA96	131 2 4201 20300	Screw	1
CA97	131 2 7104 00101	Plate Pad Switch	1
CA98	⚠ 4 2312 02650	Switch Slide (Voltage Select) [S5]	1
CX1	101 3 1302 00311	Screw, Pan Hd., +M2.0x3	4
CX2	101 3 1303 03011	Screw, Pan Hd., +M3.0x30	1
CX3	103 3 1303 00511	Screw, Pan Hd. Tapping-2, +M3.0x5	4
CX4	103 3 1904 00611	Screw, Brazier Hd. Tapping-2, +M4.0x6	2
CX5	143 3 1702 00618	Screw, Bind Hd. Tapping-B, +M2.0x6	1
CX6	143 3 1702 00818	Screw, Bind Hd. Tapping-B, +M2.0x8	2
CX7	112 3 1302 00011	E Ring, M2.0	1
CX8	110 3 2104 00011	Spring Washer-2, M4.0	1
CX9	106 3 1204 00311	Hex. Nut-2, M4.0	1
PCB1	141 0 1939 05800	Control P.C.B. Assy	1
PCB2	141 0 1939 02710	PCR P.C.B. Assy	1
PCB3	141 0 1939 02721	PTR P.C.B. Assy	1
PCB4	141 0 1939 02731	LED P.C.B. Assy	1
PCB5	141 0 1939 05471	Terminal P.C.B. Assy	1
PCB6	141 0 1939 05900	Sub Control P.C.B. Assy	1
PCB7	141 0 1939 06000	Touch Switch P.C.B. Assy	1
PCB8	141 0 1939 06100	Manual Switch P.C.B. Assy	1
PCB9	141 0 1939 06200	Slide Switch P.C.B. Assy	1
PCB10	141 0 1939 06300	Auto Function Jack P.C.B. Assy	1
PCB11	141 0 1939 06500	Power Supply P.C.B. Assy	1

NOTE:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

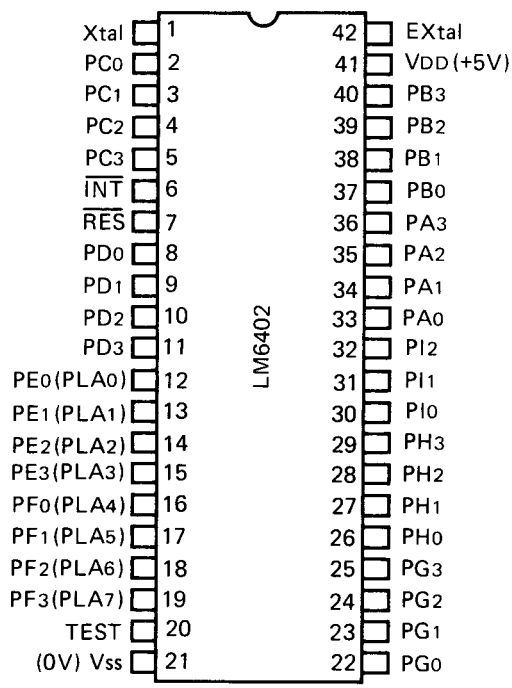
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

FUNCTIONAL DESCRIPTION

MICROCOMPUTER PORTS AND FUNCTIONS

Port No.	Functions	Actions	Port No.	Functions	Actions
PA_0	INTRO LED	"L"...ON	PF_2	TR-7 LED	"L"...ON
PA_1	TR-9 LED	"L"...ON	PF_3	TR-8 LED	"L"...ON
PA_2	Lift Down SW.	"H"...ON			
PA_3	Lift Up SW.	"H"...ON	PG_0	Phono Motor	"L"...ON
			PG_1	Speed	"L"...45rpm
PB_0~PB_2	Arm Position				"H"...33rpm
			PG_2	Arm Motor (left)	"L"...ON
PC_0~PC_3	Key Scan		PG_3	Arm Motor (right)	"L"...ON
PD_0~PD_3	Key Scan				
			PH_0	Lifter Motor (down)	"L"...ON
PE_0	TR-1 LED	"L"...ON	PH_1	Lifter Motor (up)	"L"...ON
PE_1	TR-2 LED	"L"...ON	PH_2	Muting Relay	"H"...ON
PE_2	TR-3 LED	"L"...ON	PH_3	Repeat	"L"...ON
PE_3	TR-4 LED	"L"...ON			
			PI_0	Reflector	"L"...reflected
PF_0	TR-5 LED	"L"...ON	PI_1	Back Pulse for leadin	"H"...OFF
PF_1	TR-6 LED	"L"...ON	PI_2	Signal (sound)	"L"...signaled

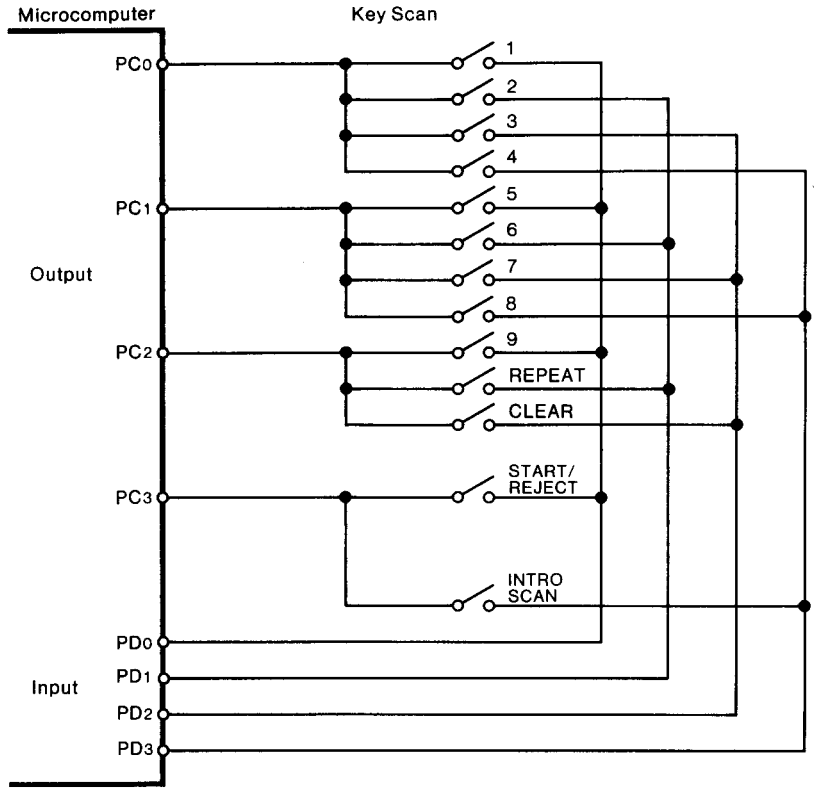


FUNCTIONAL DESCRIPTION (Continued)

Key Scan

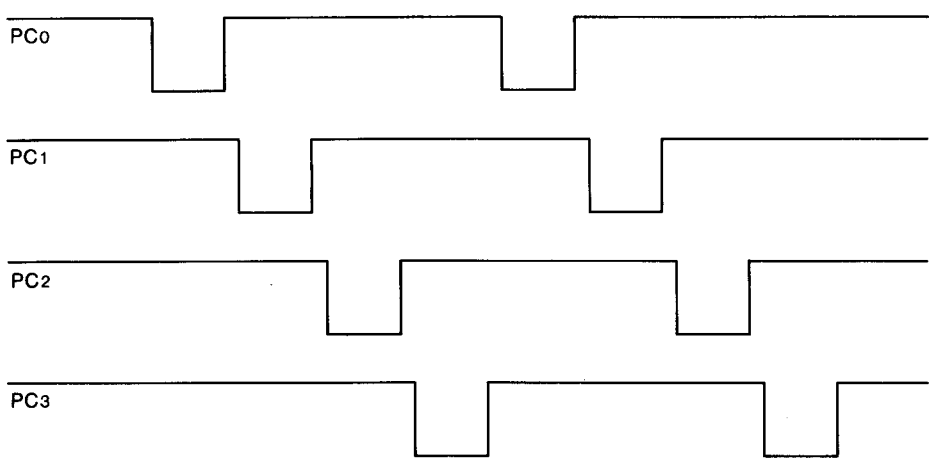
The m1crocomputer analyzes the combinations of the four output and input ports (4 x 4 = 16 ports in total) and detects which one of the sixteen buttons (START/REJECT, REPEAT, INTRO SCAN, etc.,) on the control panel was pressed.

The output ports are PC0 ~ PC3 and the input ports PD0 ~ PD3 in the chart below.



Input Ports PD0 ~ PD3 are normally kept in "H" (high) level and Output Ports PC0 ~ PC3 output the signals of "L" (low) level in the cycles as illustrated. When a port is in "L" level, the other ports are kept in "H" level.

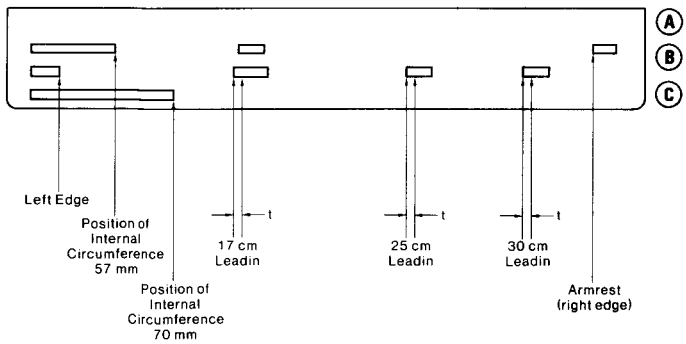
If Button 1 is pressed and Output Port PC0 is set in "L" level, Input Port PD0 becomes "L" level. If Button 5 is pressed and Output Port PC1 is set in "L" level, Input Port PD0 becomes "L" level. Thus, the microcomputer analyzes how the input and output ports are combined and detects which button was pressed according to the combination.

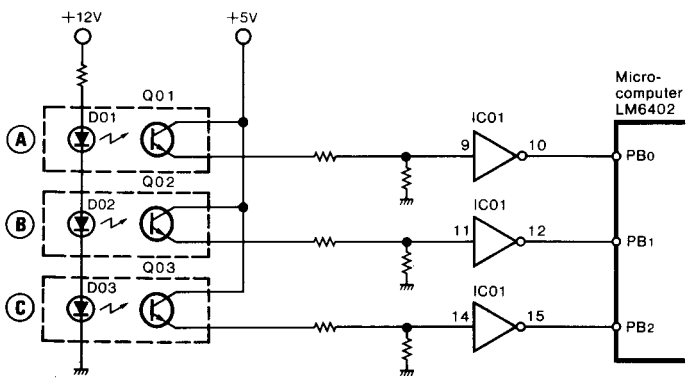


FUNCTIONAL DESCRIPTION (Continued)

Arm Position and Microcomputer Ports

The arm position is detected by the three pairs of LED's and phototransistors which run across the guide angle, and a pair of LED and a phototransistor mounted on the pickup. Illustrated below is the hole arrangement of the three pairs of sensors which run across the guide angle and the guide angle. See the chart for the relation between each port.





	Left Edge	Internal Circumference 57mm	Internal Circumference 70mm	Armrest (Right Edge)
PB0	"L"(Low Level)	"L"(Low Level)	"H"(High Level)	"L"(Low Level)
PB1	"L"(Low Level)	"H"(High Level)	"H"(High Level)	"H"(High Level)
PB2	"L"(Low Level)	"L"(Low Level)	"L"(Low Level)	"H"(High Level)

30 cm Leadin

The arm is shifted until PB1 is set in "H" level (at the end of the square hole) if PI0 is set in "L" level by the signals emitted from the sensor on the pickup when PB0 is in "H", PB1 in "L", and PB2 in "H" levels.

When PB1 is set in "H" level, the arm stops once (Port PG2: "H") and returns (Port PG3: "L") for a period of time determined by C22 (4.7μF/25) and VR01 (100K-B).

If the arm returns for a certain period of time, it stops (Port PG3: "H") and lowers on the disc (Port PH0: "L").

Note:

If the sensor on the pickup is located over the disc, the light is reflected and Port PI0 is set in "L" level. If a disc is not placed on the turntable, the light is not reflected and Port PI0 is set in "H" level.

25 cm Leadin

As PI0 is set in "H" level at the square hole for 30 cm, the arm advances inwards until it reaches the square hole for 25 cm. Then, the arm exercises the same action as those in 30 cm leadin and lowers on the disc.

17 cm Leadin

When PB0 is in "L", PB1 in "L", and PB2 in "H" levels, the arm is shifted until PB1 is set in "H" level if Port PI0 is set in "L" level by the signals emitted from the sensor on the pickup. Then, the arm exercises the same actions as those in 30 cm leadin.

Return Conditions

The return action is taken place when the following conditions are met.

(1) when the stylus tip reaches the area of 57 mm or more away from the internal circumference of the disc. (PB0: "L", PB1: "H", PB2: "L")
(2) when there is no music signal. (PI2: "H")
(3) The light is reflected to the sensor with the pickup in "DOWN" mode. (PI0: "L")

When the unit is operated without any programming and the above described three conditions are met at the same time, the return action is taken place.

When the reproduction of the last program is finished by the programmed action, the return action is taken place if the above described conditions (2) and (3) are met at the same time.

Conditions of Direct Music Selection

Direct music selection is taken place when the following conditions are met at the same time. In other cases, select a program after the tonearm has rested on the armrest once.

(1) when a program is finished at the area of more than 70 mm away from the internal circumference of the disc.
(2) when the program to be selected next is not the first one.
(3) when music signals exist for more than 10 sec.

ADJUSTMENT PROCEDURES

Measuring Instruments Required

- DC VTVM (DC Voltmeter with high input impedance)
- Standard Reflector
- Stylus pressure Meter
- Record Disc (Disc with many programs is desirable.)
- Plus Screwdriver, Minus Screwdriver

• Stylus Pressure Adjustment

1. Place the unit on a level surface and remove the lid.
2. Turn on the power switch of the unit.
3. Push ◁ button on the control panel and move the arm to the place as illustrated in Fig. 1.
4. Adjust the stylus pressure adjustment screw (Fig. 2) through the adjustment hole, so that the stylus pressure becomes 1.8 ~ 2.2 g.

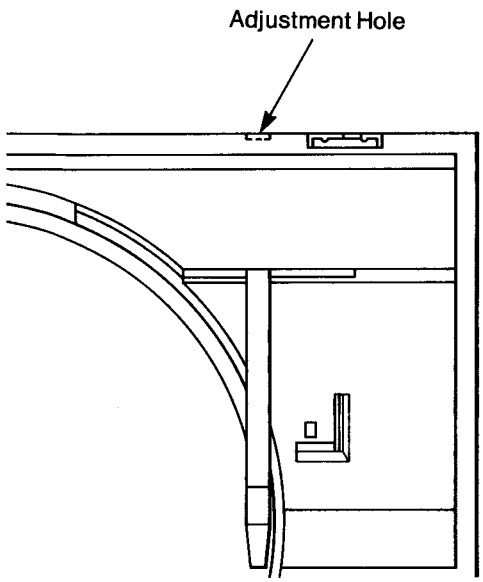


Fig. 1

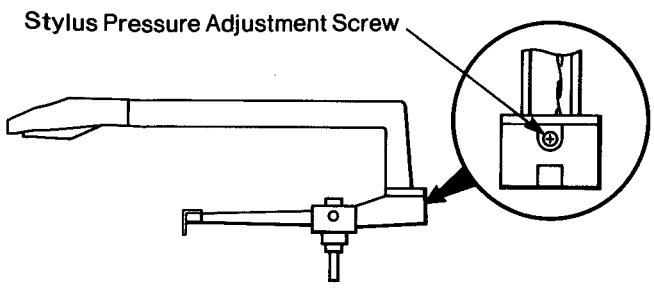


Fig. 2

• Tonearm Position Adjustment

1. Remove the lid and the turntable.
2. Turn on the power switch of the unit.
3. Push the ◁ button on the control panel and move the tonearm to the place where the tonearm position adjustment cam can be observed. (Fig. 3)
4. Adjust the tonearm position adjustment cam, so that the tonearm faces perpendicular to the back wall of the cabinet. (Fig. 3)

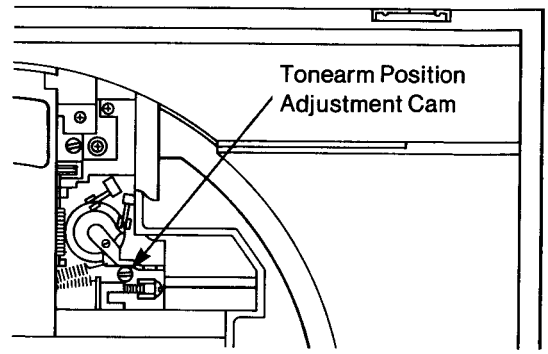


Fig. 3

• Stylus Height Adjustment

1. Remove the lid and the turntable mat.
2. Turn on the power switch of the unit.
3. Push the ◁ button on the control panel and move the tonearm to the place where the stylus height adjustment screw can be observed. (Fig. 4)
4. Adjust the stylus height to the place 6±0.5mm above the turntable.

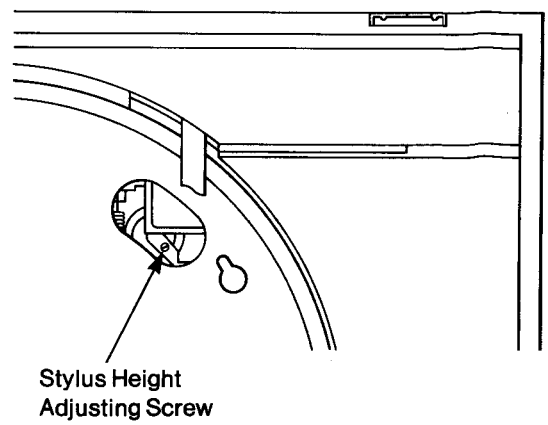


Fig. 4

ADJUSTMENT PROCEDURES (Continued)

• Arm Trace Confirmation

1. Turn on the power switch of the unit.
2. Place a disc on the turntable and set the number of rotations to 45 r.p.m.
3. Confirm that the tonearm correctly traces from the beginning to the final silent groove.
4. If not, cut off R93 (3.3kΩ) on the Control P.C.Board and perform the re-confirmation. (Fig. 8)

• Arm Feed Photointerrupter Position Adjustment

1. Turn on the power switch of the unit.
2. Place a disc with little eccentricity on the turntable and play it back.
3. After the disc has been rotated 3 or 4 times, push the CUEING button to elevate the tonearm.
4. At this time, adjust the arm feed screw through the right hole on the cabinet with a screwdriver, so that the tonearm is elevated straight up. (Fig. 5)

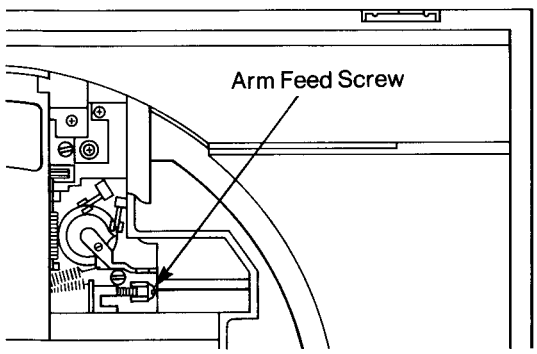


Fig. 5

• Track Sensor Sensitivity Adjustment

1. Short-circuit between TP1 (GND) and TP4. (When the tonearm is placed on the turntable, the turntable does not rotate.)
2. Connect the DC VTVM's between TP2 and GND and between TP3 and GND. (Fig. 7)
3. Place the standard reflective plate on the center between the turntable shaft and turntable edges.
4. Turn on the power switch of the unit.
5. Move the tonearm to the place above the standard reflective plate. Lower the tonearm on the plate with the CUEING button.
6. Adjust VR11, so that the voltage of TP3 becomes 3.5V.
7. Elevate the tonearm with the CUEING button. At this time, adjust VR12, so that the voltage of TP2 becomes 3.8V.
   Note:
   If the proper sensitivity is not obtained, cut off R105 and perform the re-adjustment.

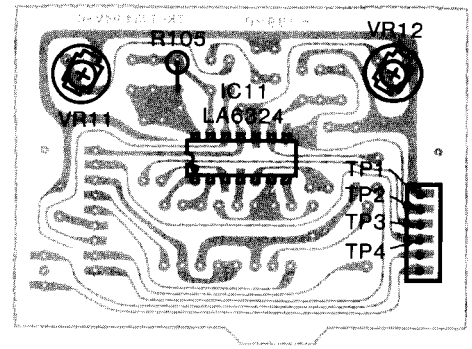


Fig. 6

• Leadin Adjustment

1. Turn on the power switch of the unit.
2. Place a disc on the turntable and push the START button.
3. Adjust VR01 through the hole on the cabinet bottom, so that the tonearm is correctly led into the disc. (Fig. 7)

• Approach Adjustment

1. Turn on the power switch of the unit.
2. Keep the approach knob in the center click position.
3. Selecxt the 2nd ~ 6th programs and adjust VR02, so that the last portion of the previous program is not reproduced or music is not reproduced on its way. (Fig. 7)

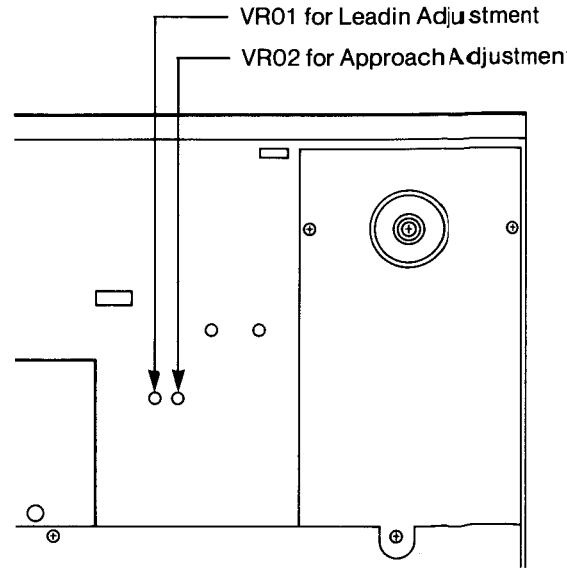


Fig. 7

ADJUSTMENT PROCEDURES (Continued)

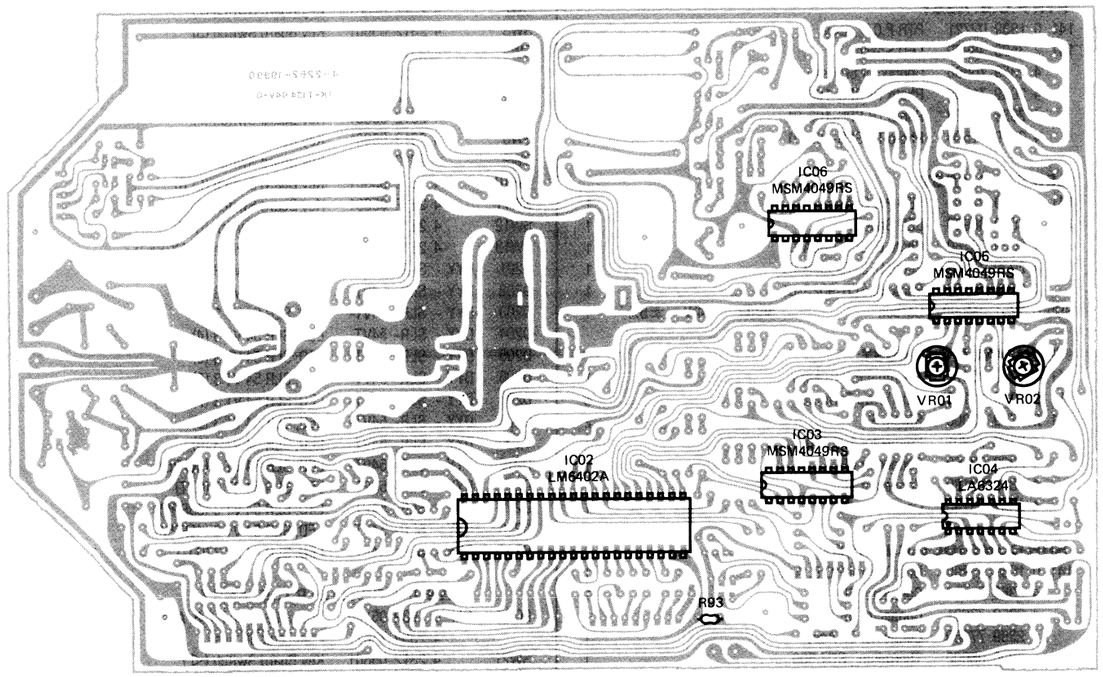


Fig. 8

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
		CONTROL P.C.B. ASSY	
PCB1	141 0 1939 05800	Control P.C.B. Assy	1
	4 2252 00090	CSB400P	1
	101 3 1303 00611	Screw, Pan Hd., +M3.0x6	2
	103 3 1903 00611	Screw, Brazier Hd. Tapping-2, +M3.0x6	1
	111 2 6220 11100	Wire Wrap Terminal	13
	131 2 6201 21500	Plate Heat Sink (for IC7)	1
	131 2 6201 35400	Plate Heat Sink (for IC8)	1
	131 2 6201 35500	Plate Heat Sink (for IC9)	1
CN1	4 2369 73130	Connector 3P	1
CN3	4 2369 73160	Connector 6P	1
CN4	4 2369 73130	Connector 3P	1
CN5	4 2362 00400	Plug 7P	1
CN6	4 2369 73690	Plug 9P	2
CN7	4 2362 00410	Plug 8P	1
CN8	4 2369 73160	Connector 6P	1
CN9	4 2369 71901	Connector 12P Top	1
CN10	4 2359 77660	Connector 5P Assy	1
VR1	4 2222 02680	Semi Fixed (B-100kΩ)	1
VR2	4 2222 02670	Semi Fixed (B-47kΩ)	1
RE1	4 2329 70310	Reed Relay	1
L1	4 2532 00540	Choke Coil (47μH)	1
TH1	204 5 9000 05000	Thermistor, SDT 500	1
IC1	4 2069 72530	IC, MSM 4049 RS	1
IC2	208 5 4016 40229	IC, LM6402A-292	1
IC3	4 2069 72530	IC, MSM 4049 RS	1
IC4	206 5 1296 32410	IC, LA 6324	1
IC5	4 2069 72530	IC, MSM 4049 RS	1
IC6	4 2069 72530	IC, MSM 4049 RS	1
IC7	206 5 2040 07805	IC, L78M05	1
IC8	4 2069 72560	IC, NJM 7812	1
IC9	4 2069 72570	IC, NJM 7912	1
Q1	203 5 5000 53650	Transistor, 2SC 536	1
Q2	203 5 5000 53650	Transistor, 2SC 536	1
Q3	203 5 7340 86350	Transistor, 2SD 863	1
Q4	203 5 7350 76450	Transistor, 2SB 764	1
Q5	203 5 7340 86350	Transistor, 2SD 863	1
Q6	203 5 7350 76450	Transistor, 2SB 764	1
Q7	203 5 5000 53650	Transistor, 2SC 536	1
Q8	203 5 5000 53650	Transistor, 2SC 536	1
Q9	203 5 5000 53650	Transistor, 2SC 536	1
Q10	203 5 5000 53650	Transistor, 2SC 536	1
Q11	203 5 5000 53650	Transistor, 2SC 536	1
Q12	203 5 7230 60850	Transistor, 2SA 608	1
Q13	203 5 7230 60850	Transistor, 2SA 608	1
Q14	203 5 7230 60850	Transistor, 2SA 608	1
Q15	203 5 7230 60850	Transistor, 2SA 608	1
Q16	203 5 7230 60850	Transistor, 2SA 608	1
Q17	203 5 5000 53650	Transistor, 2SC 536	1
Q18	203 5 5000 53650	Transistor, 2SC 536	1
Q19	203 5 5000 53650	Transistor, 2SC 536	1
Q20	203 5 5000 53650	Transistor, 2SC 536	1
Q51	203 5 5000 53650	Transistor, 2SC 536	1
Q52	203 5 5000 53650	Transistor, 2SC 536	1
Q53	203 5 5000 53650	Transistor, 2SC 536	1
Q54	203 5 5000 53650	Transistor, 2SC 536	1
Q55	203 5 5000 53650	Transistor, 2SC 536	1
D1	205 5 9040 44210	Diode, DS 442	1
D2	205 5 9040 44210	Diode, DS 442	1
D3	202 5 3160 00110	Diode, GMA 01	1
D4	205 5 9040 44210	Diode, DS 442	1
D5	205 5 9040 44210	Diode, DS 442	1
D6	205 5 9040 44210	Diode, DS 442	1
D7	202 5 3160 00110	Diode, GMA 01	1

Ref. No.	Part No.	Description				Q'ty
D8	202 5 3160 00110	Diode, GMA 01				1
D9	202 5 3160 00110	Diode, GMA 01				1
D11	205 5 9040 44210	Diode, DS 442				1
D12	205 5 9040 44210	Diode, DS 442				1
D13	205 5 9040 44210	Diode, DS 442				1
D14	205 5 9040 44210	Diode, DS 442				1
D15	202 5 3160 00110	Diode, GMA 01				1
D16	202 5 3160 00110	Diode, GMA 01				1
D17	205 5 9040 44210	Diode, DS 442				1
D18	205 5 9040 44210	Diode, DS 442				1
D19	DGG - W02- - - - -	Diode, W 02				1
D20	202 5 2470 13540	Diode, DS 135				1
D21	205 5 9040 44210	Diode, DS 442				1
D22	205 5 9040 44210	Diode, DS 442				1
D23	205 5 9040 44210	Diode, DS 442				1
D24	205 5 9040 44210	Diode, DS 442				1
D25	202 5 3160 00110	Diode, GMA 01				1
D51	205 5 9040 44210	Diode, DS 442				1
D52	205 5 9040 44210	Diode, DS 442				1
D53	205 5 9040 44210	Diode, DS 442				1
D54	205 5 9040 44210	Diode, DS 442				1
D55	202 5 3210 10012	Zener Diode, GZA 10Y				1
C4	CD3 3 4500 0001V	Electrolytic	0.33μF	50V		1
C5	CD1 0 4500 0001V	Electrolytic	0.1μF	50V		1
C8	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C9	CD4 7 6100 0001V	Electrolytic	47μF	10V		1
C10	CC1 0 3501 YEY0C	Ceramic	0.01μF	500V	+100,-0%	1
C11	4 2239 71360	Electrolytic	1000μF	25V		1
C12	CD4 7 7250 0006V	Electrolytic	470μF	25V		1
C13	CC1 0 3500 ZG00C	Ceramic	0.01μF	50V	+80,-20%	1
C14	CC1 0 3500 ZG00C	Ceramic	0.01μF	50V	+80,-20%	1
C15	CD1 0 7160 0001V	Electrolytic	100μF	16V		1
C16	CD1 0 7160 0001V	Electrolytic	100μF	16V		1
C17	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C18	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C19	CC3 3 1500 KD00C	Ceramic	330pF	50V	±10%	1
C20	CM1 0 3500 K00SV	Mylar	0.01μF	50V	±10%	1
C21	CI1 0 3250 NF00R	Boundary	0.01μF	25V	±30%	1
C22	CD1 0 6250 0001V	Electrolytic	10μF	25V		1
C23	CD3 3 5500 KHS1V	Electrolytic	3.3μF	50V	±10%	1
C24	CM1 0 3500 K00SV	Mylar	0.01μF	50V	±10%	1
C25	CC3 3 1500 KD00C	Ceramic	330pF	50V	±10%	1
C26	CI1 0 3250 NF00R	Boundary	0.01μF	25V	±30%	1
C27	CI1 0 3250 NF00R	Boundary	0.01μF	25V	±30%	1
C28	CD2 2 5500 0001V	Electrolytic	2.2μF	50V		1
C29	CD2 2 5500 0001V	Electrolytic	2.2μF	50V		1
C30	CC1 0 1500 KD00C	Ceramic	100pF	50V	±10%	1
C31	CM1 0 3500 K00SV	Mylar	0.01μF	50V	±10%	1
C32	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C33	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C34	CD2 2 6160 0001V	Electrolytic	22μF	16V		1
C35	CD4 7 6100 0001V	Electrolytic	47μF	10V		1
C36	CD1 0 6160 0001V	Electrolytic	10μF	16V		1
C37	CM2 7 3500 K00SV	Mylar	0.027μF	50V	±10%	1
C38	CD4 7 5250 0001V	Electrolytic	4.7μF	25V		1
C39	CM1 0 4500 J00TV	Mylar	0.1μF	50V	±5%	1
C40	CP2 2 1101 J003V	Polypropylen	220pF	100V	±5%	1
C41	CP2 2 1101 J003V	Polypropylen	220pF	100V	±5%	1
C42	CD4 7 6250 0001V	Electrolytic	47μF	25V		1
C43	CD4 7 5500 0001V	Electrolytic	4.7μF	50V		1
C44	CC4 7 3500 ZG00C	Ceramic	0.047μF	50V	+80,-20%	1
C45	CI2 2 3160 NG00R	Boundary	0.022μF	16V	±30%	1
C46	CI2 2 3160 NG00R	Boundary	0.022μF	16V	±30%	1
C47	CI2 2 3160 NG00R	Boundary	0.022μF	16V	±30%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C48	CI2 2 3160 NG00R	Boundary	0.022μF	16V	±30%	1
C51	CD2 2 5500 0001V	Electrolytic	2.2μF	50V		1
C52	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
C53	CD1 0 5500 0001V	Electrolytic	1μF	50V		1
R1	RH4 7 1102 JZ000	Metal	470Ω	1W	±5%	1
R2	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R3	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R4	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R5	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R6	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R7	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R8	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W	±5%	1
R9	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R10	RD2 2 2251 JM000	Carbon	2.2kΩ	1/4W	±5%	1
R11	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R12	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R13	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R14	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R15	RD4 7 2161 JH000	Carbon	4.7kΩ	1/6W	±5%	1
R16	RD4 7 2161 JH000	Carbon	4.7kΩ	1/6W	±5%	1
R17	RD2 7 2251 JM000	Carbon	2.7kΩ	1/4W	±5%	1
R18	RD8 2 1251 JM000	Carbon	820Ω	1/4W	±5%	1
R19	RD2 2 2161 JH000	Carbon	2.2kΩ	1/6W	±5%	1
R20	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R21	RD3 9 A251 JM000	Carbon	3.9Ω	1/4W	±5%	1
R22	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R23	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R24	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R25	RD3 3 2161 JH000	Carbon	3.3kΩ	1/6W	±5%	1
R26	RH2 7 0202 JZ000	Metal	27Ω	2W	±5%	1
R27	RH4 7 1102 JZ000	Metal	470Ω	1W	±5%	1
R28	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R29	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R30	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W	±5%	1
R31	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R32	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R33	RD2 2 2161 JH000	Carbon	2.2kΩ	1/6W	±5%	1
R34	RD3 9 A251 JM000	Carbon	3.9Ω	1/4W	±5%	1
R35	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R36	RD4 7 1161 JH000	Carbon	470Ω	1/6W	±5%	1
R37	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R38	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R39	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R40	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R41	RD6 8 2251 JM000	Carbon	6.8kΩ	1/4W	±5%	1
R42	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R43	RD3 3 4161 JH000	Carbon	330kΩ	1/6W	±5%	1
R44	RD1 2 3161 JH000	Carbon	12kΩ	1/6W	±5%	1
R45	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R46	RD1 2 2161 JH000	Carbon	1.2kΩ	1/6W	±5%	1
R47	RD2 7 4161 JH000	Carbon	270kΩ	1/6W	±5%	1
R48	RD1 2 2161 JH000	Carbon	1.2kΩ	1/6W	±5%	1
R49	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R50	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R51	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R52	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R53	RD4 7 2251 JM000	Carbon	4.7kΩ	1/4W	±5%	1
R55	RD6 8 2251 JM000	Carbon	6.8kΩ	1/4W	±5%	1
R56	RD1 5 4161 JH000	Carbon	150kΩ	1/6W	±5%	1
R57	RD1 2 2161 JH000	Carbon	1.2kΩ	1/6W	±5%	1
R58	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R59	RD1 0 5161 JH000	Carbon	1MΩ	1/6W	±5%	1
R60	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R61	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R62	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R63	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R64	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R65	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R66	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R67	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R68	RD3 9 1161 JH000	Carbon	390Ω	1/6W	±5%	1
R69	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R70	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R71	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R72	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R73	RD3 9 1251 JM000	Carbon	390Ω	1/4W	±5%	1
R74	RD3 9 1251 JM000	Carbon	390Ω	1/4W	±5%	1
R75	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R76	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R77	RD2 2 1251 JM000	Carbon	220Ω	1/4W	±5%	1
R78	RD3 9 1251 JM000	Carbon	390Ω	1/4W	±5%	1
R79	RD3 9 1251 JM000	Carbon	390Ω	1/4W	±5%	1
R80	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R81	RD2 2 3161 JH000	Carbon	22kΩ	1/6W	±5%	1
R82	RD1 8 3161 JH000	Carbon	18kΩ	1/6W	±5%	1
R83	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R84	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R85	RD1 8 3161 JH000	Carbon	18kΩ	1/6W	±5%	1
R86	RD2 2 3161 JH000	Carbon	22kΩ	1/6W	±5%	1
R87	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R88	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R89	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R90	RD6 8 2251 JM000	Carbon	6.8kΩ	1/4W	±5%	1
R91	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R92	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R93	RD3 3 2161 JH000	Carbon	3.3kΩ	1/6W	±5%	1
R94	RD1 2 2251 JM000	Carbon	1.2kΩ	1/4W	±5%	1
R95	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R96	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R97	RD1 0 4251 JM000	Carbon	100kΩ	1/4W	±5%	1
R98	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R99	RD1 0 0251 JS000	Carbon	10Ω	1/4W	±5%	1
R201	RD2 2 2161 JH000	Carbon	2.2kΩ	1/6W	±5%	1
R202	RD2 2 3161 JH000	Carbon	22kΩ	1/6W	±5%	1
R203	RD1 8 3251 JM000	Carbon	18kΩ	1/4W	±5%	1
R205	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R206	RD4 7 3161 JH000	Carbon	47kΩ	1/6W	±5%	1
R207	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R208	RD1 0 2251 JM000	Carbon	1kΩ	1/4W	±5%	1
R209	RD1 0 4161 JH000	Carbon	100kΩ	1/6W	±5%	1
R210	RD2 2 2161 JH000	Carbon	2.2kΩ	1/6W	±5%	1
R211	RD2 2 3161 JH000	Carbon	22kΩ	1/6W	±5%	1
R212	RD2 2 3161 JH000	Carbon	22kΩ	1/6W	±5%	1
R213	RD2 2 3161 JH000	Carbon	22kΩ	1/6W	±5%	1
R214	RD1 2 4161 JH000	Carbon	120kΩ	1/6W	±5%	1
R215	RD1 2 4161 JH000	Carbon	120kΩ	1/6W	±5%	1
R216	RD2 2 2161 JH000	Carbon	2.2kΩ	1/6W	±5%	1
R217	RD2 2 2161 JH000	Carbon	2.2kΩ	1/6W	±5%	1
R401	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R402	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1

PCR P.C.B. ASSY

PCB2	141 0 1939 02710	PCR P.C.B. Assy				1
CN14	4 2359 76742	Connector 4P Assy				1
Q1	4 2039 71430	Photo Interrupter, IS-04				1
R1	RD5 6 1251 JN000	Carbon	560Ω	1/4W	±5%	1

P.C.BOARD PARTS LIST (Continued)

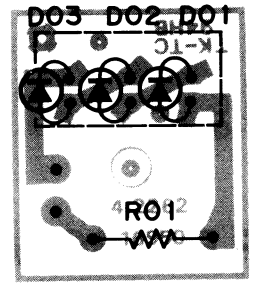
Ref. No.	Part No.	Description				Q'ty
PTR P.C.B. ASSY						
PCB3	141 0 1939 02721	PTR P.C.B. Assy				1
	141 2 3529 38900	LED Spacer				1
CN12	4 2359 76606	Connector 6P Assy				1
Q1	4 2039 71500	Photo TR SPS-103-01				1
Q2	4 2039 71500	Photo TR SPS-103-01				1
Q3	4 2039 71500	Photo TR SPS-103-01				1
LED P.C.B. ASSY						
PCB4	141 0 1939 02731	LED P.C.B. Assy				1
	141 2 3529 38900	LED Spacer				1
D1	4 2029 73160	Photo D. SLR-902A-01				1
D2	4 2029 73160	Photo D. SLR-902A-01				1
D3	4 2029 73160	Photo D. SLR-902A-01				1
R1	RD5 6 1251 JM000	Carbon	560Ω	1/4W	±5%	1
TERMINAL P.C.B. ASSY						
PCB5	141 0 1939 05471	Terminal P.C.B. Assy				1
	111 2 6220 11100	Wire Wrap Terminal				6
	141 2 4729 05000	Staple 5				2
CN11	4 2369 71901	Connector 12P Top				1
CN12	4 2369 73160	Connector 6P				1
CN13	4 2369 73130	Connector 3P				1
CN14	4 2369 73140	Connector 4P				1
SUB CONTROL P.C.B. ASSY						
PCB6	141 0 1939 05900	Sub Control P.C.B. Assy				1
	4 2369 71452	Connector 6P				1
CN2	4 2359 77681	Connector 9P Assy				1
CN4	4 2359 77369	Connector 3P Assy				1
TH11	204 5 9000 05000	Thermistor, SDT 500				1
VR11	4 2222 02690	Semi Fixed (B-220kΩ)				1
VR12	4 2222 02670	Semi Fixed (B-47kΩ)				1
C101	CM1 0 2500 K00SV	Mylar	0.001μF	50V	±10%	1
C102	CM1 0 2500 K00SV	Mylar	0.001μF	50V	±10%	1
C103	CD4 7 6100 0001V	Electrolytic	47μF	10V		1
IC11	206 5 1296 32410	IC, LA 6324				1
D101	205 5 9040 44210	Diode, DS 442				1
D102	205 5 9040 44210	Diode, DS 442				1
R101	RD2 7 3161 JH000	Carbon	27kΩ	1/6W	±5%	1
R102	RD2 7 3161 JH000	Carbon	27kΩ	1/6W	±5%	1
R103	RD1 0 2161 JH000	Carbon	1kΩ	1/6W	±5%	1
R104	RD1 2 4161 JH000	Carbon	120kΩ	1/6W	±5%	1
R105	RD2 7 3251 JN000	Carbon	27kΩ	1/4W	±5%	1
R106	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R107	RD2 7 3161 JH000	Carbon	27kΩ	1/6W	±5%	1
R108	RD3 3 4161 JH000	Carbon	330kΩ	1/6W	±5%	1
R109	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R110	RD1 0 3251 JM000	Carbon	10kΩ	1/4W	±5%	1
R111	RD6 8 2251 JM000	Carbon	6.8kΩ	1/4W	±5%	1
R112	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
R113	RD1 2 3251 JM000	Carbon	12kΩ	1/4W	±5%	1
R114	RD4 7 3251 JM000	Carbon	47kΩ	1/4W	±5%	1
R115	RD3 3 3251 JM000	Carbon	33kΩ	1/4W	±5%	1
R116	RD5 6 2251 JM000	Carbon	5.6kΩ	1/4W	±5%	1
R117	RD2 2 3251 JM000	Carbon	22kΩ	1/4W	±5%	1
TOUCH SWITCH P.C.B. ASSY						
PCB7	141 0 1939 06000	Touch Switch P.C.B. Assy				1
	141 2 3529 44400	Spacer				1
CN5	131 0 4006 22227	Cord Assy				1
CN6	4 2359 77680	Connector 9P Assy				1
CN7	131 0 4006 22215	Cord Assy				1
SW1	4 2312 05801	Key Board Switch (1)				1
SW2	4 2312 05801	Key Board Switch (2)				1
SW3	4 2312 05801	Key Board Switch (3)				1
SW4	4 2312 05801	Key Board Switch (4)				1
SW5	4 2312 05801	Key Board Switch (5)				1
SW6	4 2312 05801	Key Board Switch (6)				1
SW7	4 2312 05801	Key Board Switch (7)				1
SW8	4 2312 05801	Key Board Switch (8)				1
SW9	4 2312 05801	Key Board Switch (9)				1
SW10	4 2312 05801	Key Board Switch (CLR)				1
SW11	4 2312 05801	Key Board Switch (INTRO)				1
SW12	4 2312 05801	Key Board Switch (RPT)				1
SW13	4 2312 05801	Key Board Switch (PLAY/REJ)				1
D201	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (1)				1
D202	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (2)				1
D203	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (3)				1
D204	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (4)				1
D205	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (5)				1
D206	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (6)				1
D207	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (7)				1
D208	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (8)				1
D209	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (9)				1
D210	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (INTRO)				1
D211	DYY - SLR- 54PT-	LED, SLR 54 PT 3 (RPT)				1
D212	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (33RPM)				1
D213	DYY - SLR- 54VT-	LED, SLR 54 VT 3 (45RPM)				1
D214	DYY - SLR- 54PT-	LED, SLR 54 PT 3 (Q.L.)				1
MANUAL SWITCH P.C.B. ASSY						
PCB8	141 0 1939 06100	Manual Switch P.C.B. Assy				1
	4 2359 77671	Connector 6P Assy				1
SW21	4 2312 05801	Key Board Switch (◁)				1
SW22	4 2312 05801	Key Board Switch (CUE)				1
SW23	4 2312 05801	Key Board Switch (▷)				1
SLIDE SWITCH P.C.B. ASSY						
PCB9	141 0 1939 06200	Slide Switch P.C.B. Assy				1
	141 2 3529 43500	Spacer				2
CN3	4 2359 77672	Connector 6P Assy				1
VR31	4 2229 74810	Volume (APPROACH, B-50kΩ)				1
SW31	4 2319 76670	Slide Switch (SENS)				1
SW32	4 2319 76670	Slide Switch (SPEED)				1
R301	RD1 0 3161 JH000	Carbon	10kΩ	1/6W	±5%	1
R302	RD4 7 2161 JH000	Carbon	4.7kΩ	1/6W	±5%	1
R303	RD2 2 2161 JH000	Carbon	2.2kΩ	1/6W	±5%	1
AUTO FUNCTION JACK P.C.B. ASSY						
PCB10	141 0 1939 06300	Auto Function Jack P.C.B. Assy				1
CN1	4 2359 77670	Connector 3P Assy				1
J1	4 2352 01730	Jack 3P (Auto Function)				1
POWER SUPPLY P.C.B. ASSY						
PCB11	141 0 1939 06500	Power Supply P.C.B. Assy				1
	⚠ 4 2352 00200	Fuse Holder				4
	4 2372 00830	EC Terminal 1P				2
	111 2 6220 11100	Wire Wrap Terminal				7
	131 2 6114 00200	Cover Safty				1
F501	⚠ 4 2349 21540	Fuse (T 800mA)				1
F502	⚠ 4 2349 21540	Fuse (T 800mA)				1
C501	⚠ 4 2239 70970	Capacitor	0.01μF	400V		1

NOTE:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

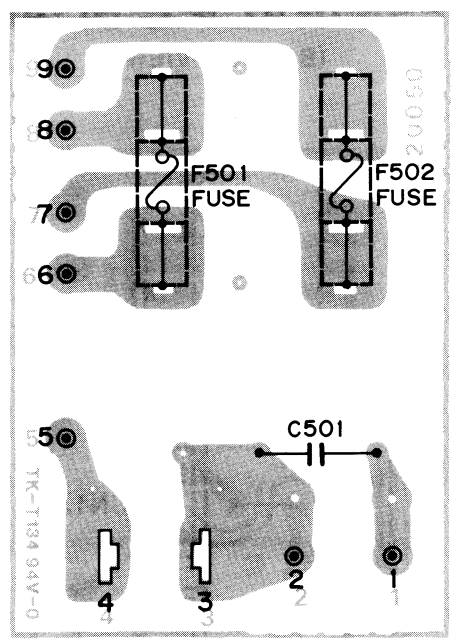
LED P.C.BOARD

(BOTTOM VIEW)

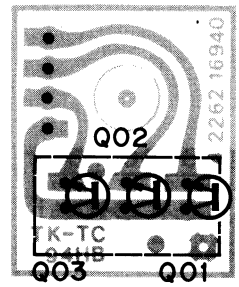


POWER SUPPLY P.C.BOARD

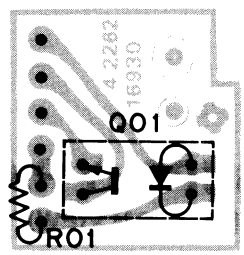
(BOTTOM VIEW)



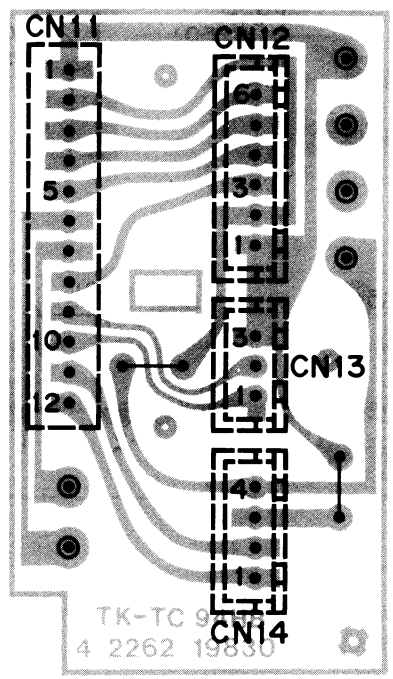
PTR P.C.BOARD
(BOTTOM VIEW)



PCR P.C.BOARD
(BOTTOM VIEW)

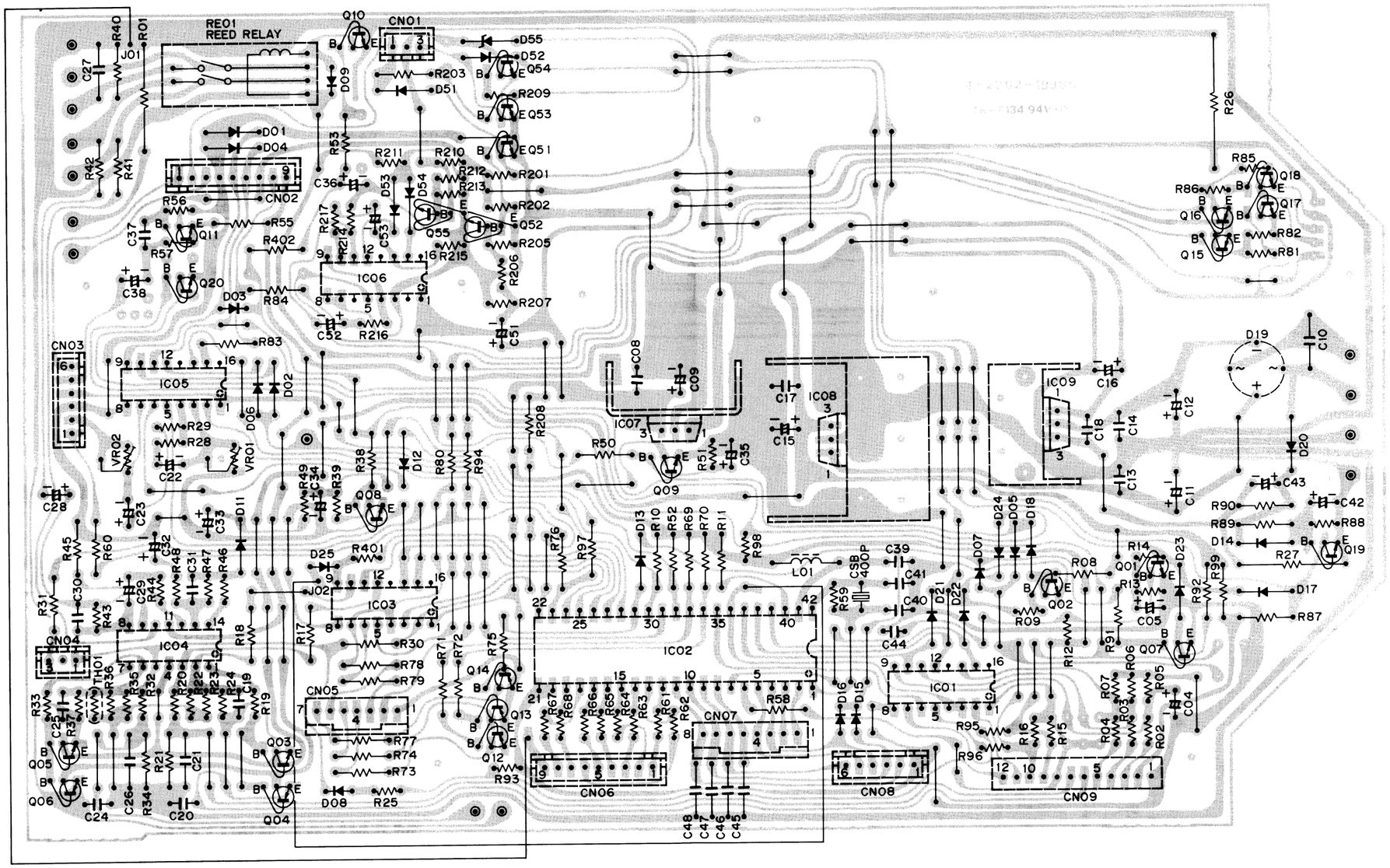


TERMINAL P.C.BOARD
(BOTTOM VIEW)



CONTROL P.C.BOARD

(BOTTOM VIEW)



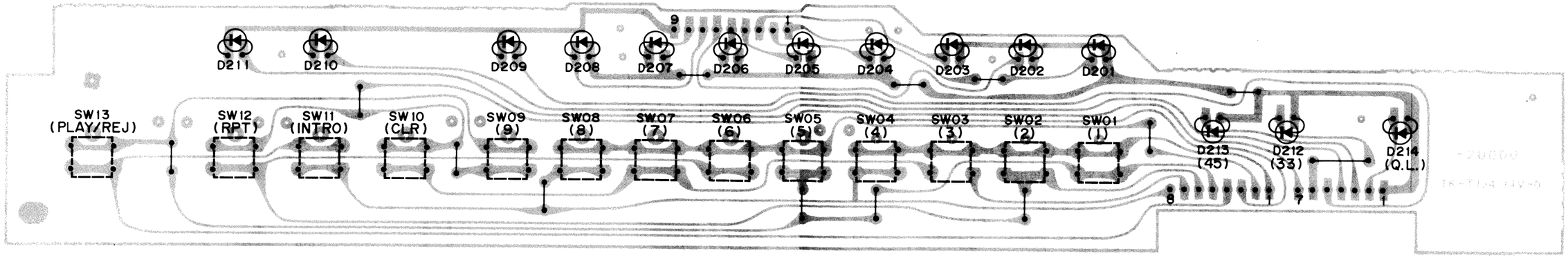
IC PIN NUMBERS DC VOLTAGES

SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC01	MSM4049	5.0V	0V	5.0V	5.0V	0V	0V	3.8V	0V	4.4V	0V	0V	5.0V	–	0V	5.0V	–				
IC03	MSM4049	5.0V	0V	5.0V	0V	4.7V	5.0V	0V	0V	5.0V	0V	5.0V	0V	–	5.0V	0V	–				
IC04	LA6324	0.6V	0V	0V	12.1V	0V	0V	−0.6V	0V	0V	10V	−12.3V	0V	0V	0V						
IC05	MSM4049	5.0V	5.0V	0V	0V	5.0V	5.0V	0V	0V	−0.6V	5.0V	5.0V	0V	–	5.0V	0V	–				
IC06	MSM4049	5.0V	–	–	0V	5.0V	–	–	0V	0V	5.0V	0V	5.0V	–	0V	5.0V	–				
IC07	L78M05	10.2V	0V	5.0V																	
IC08	NJM7812	19.2V	0V	12.1V																	
IC09	NJM7912	0V	−19.8V	−12.3V																	
IC02	LM6402A	1.6V	4.2V	4.1V	4.1V	4.2V	5.0V	5.0V	5.0V	5.0V	4.9V	5.0V	3.7V	3.7V	3.7V	3.7V	3.7V	3.7V	3.7V	3.7V	0V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		0V	5.0V	4.7V	5.0V	5.0V	5.0V	5.0V	5.0V	4.9V	5.0V	5.0V	5.0V	5.0V	5.0V	0V	5.0V	0V	5.0V	5.0V	5.0V
		41	42																		
		5.0V	2.2V																		

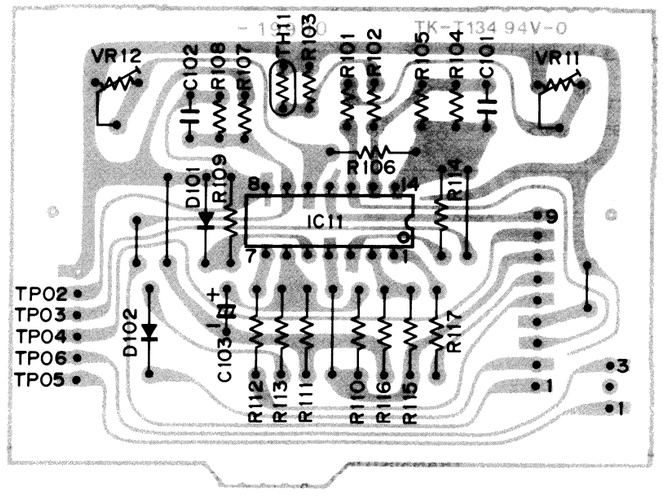
TRANSISTOR DC VOLTAGES

SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E
Q01	2SC536	0V	5.0V	0V	Q08	2SC536	0.6V	0V	0V	Q17,18	2SC536	−11.6V	−12.3V	−12.3V
Q02	2SC536	0.7V	0.1V	0V	Q09	2SC536	0V	5.0V	0V	Q19	2SC536	0.6V	0V	0V
Q03	2SD863	0.6V	12.1V	0V	Q10	2SC536	0.8V	0.2V	0V	Q51	2SC536	0.7V	0V	0V
Q04	2SB764	0.6V	−12.3V	0V	Q11	2SC536	−0.9V	12.1V	−1.5V	Q52	2SC536	0V	0.7V	0V
Q05	2SD863	−0.6V	12.1V	0.1V	Q12,13	2SA608	5.0V	0V	5.0V	Q53	2SC536	0.1V	−0.1V	0V
Q06	2SB764	−0.6V	−12.3V	0.1V	Q14	2SA608	4.9V	0V	5.0V	Q54	2SC536	0V	0.1V	0V
Q07	2SC536	0.7V	0V	0V	Q15,16	2SA608	4.3V	5.0V	5.0V	Q55	2SC536	0.7V	0.1V	0V

TOUCH SWITCH P.C.BOARD
(BOTTOM VIEW)



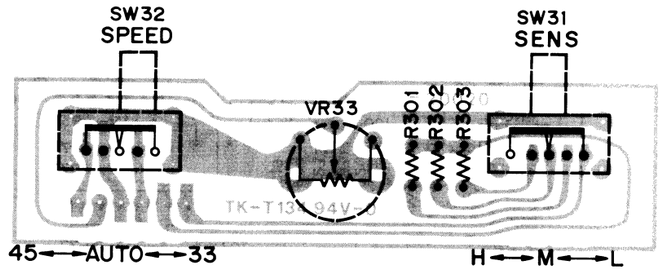
SUB CONTROL P.C.BOARD
(BOTTOM VIEW)



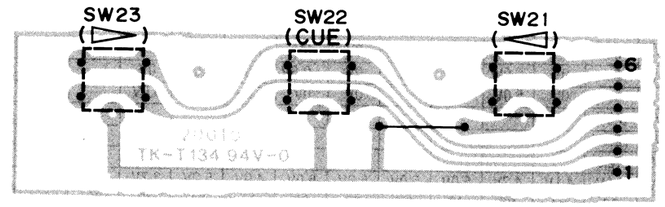
IC PIN NUMBERS DC VOLTAGES

SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC11	LA6324	-11.7V	1.7V	0V	12.1V	0.1V	4.9V	0.1V	0.1V	0V	0V	-12.3V	0V	0V	0V

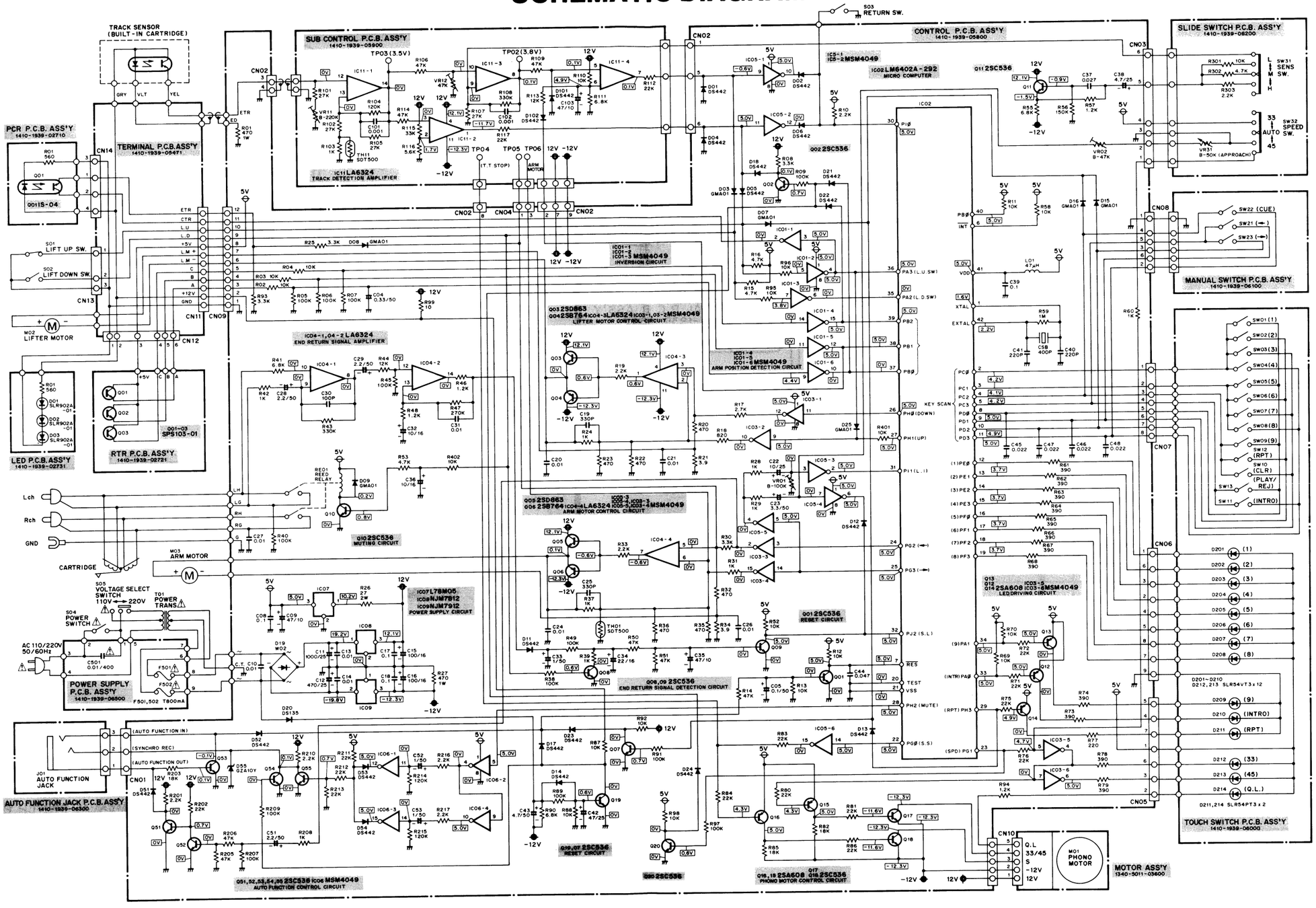
SLIDE SWITCH P.C.BOARD
(BOTTOM VIEW)



MANUAL SWITCH P.C.BOARD
(BOTTOM VIEW)



SCHEMATIC DIAGRAM



PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

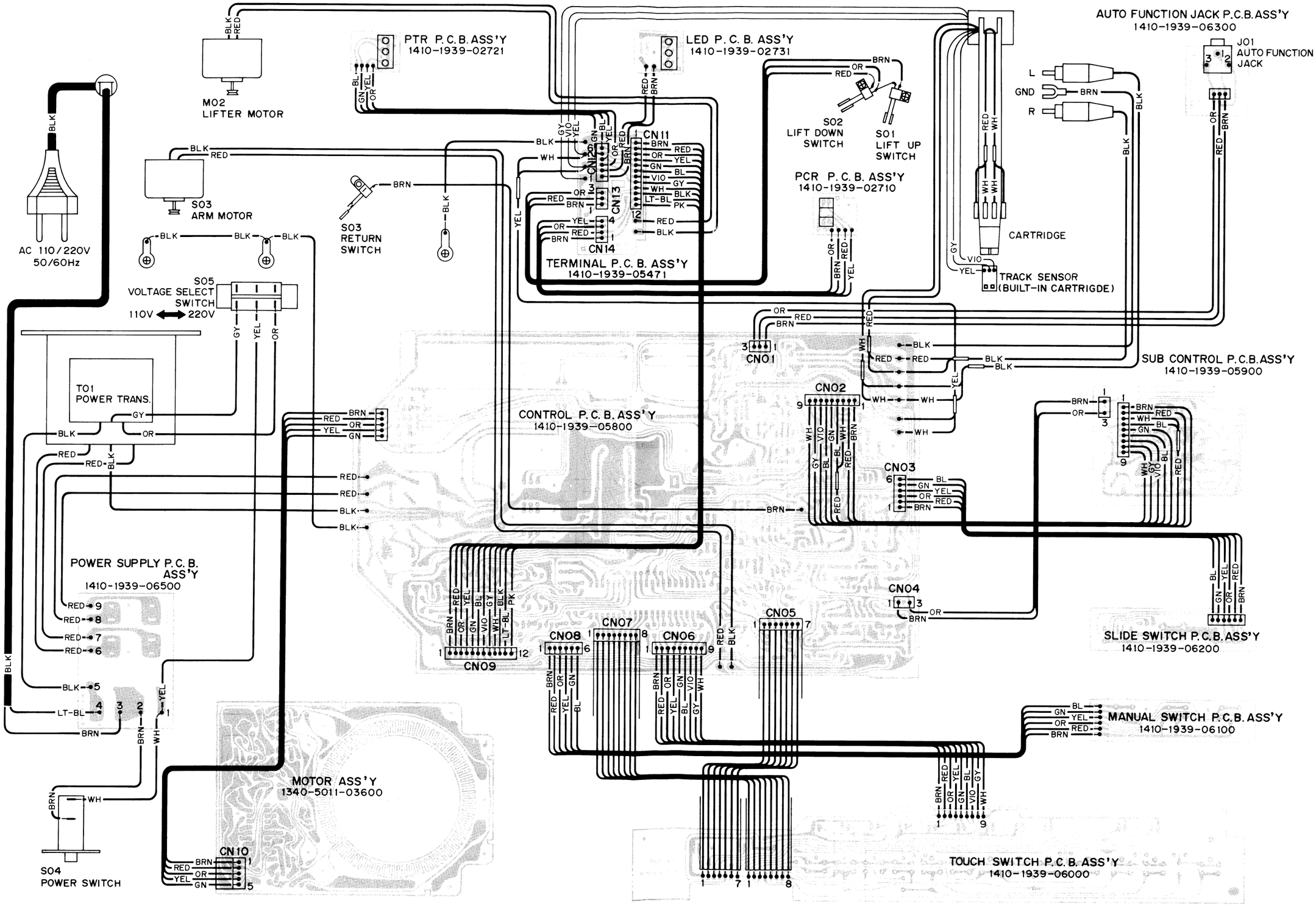
No.	Name	Position	No.	Name	Position
SW1	(1) Switch	OFF	SW13	PLAY/REJ Switch	OFF
SW2	(2) Switch	OFF	SW21	(⟵) Switch	OFF
SW3	(3) Switch	OFF	SW22	CUE Switch	OFF
SW4	(4) Switch	OFF	SW23	(⟶) Switch	OFF
SW5	(5) Switch	OFF	SW31	SENS Switch	M
SW6	(6) Switch	OFF	SW32	SPEED Switch	AUTO
SW7	(7) Switch	OFF			
SW8	(8) Switch	OFF	S1	LIFT UP Switch	ON
SW9	(9) Switch	OFF	S2	LIFT DOWN Switch	OFF
SW10	CLEAR Switch	OFF	S3	RETURN Switch	M
SW11	INTRO Switch	OFF	S4	POWER Switch	OFF
SW12	REPEAT Switch	OFF	S5	VOLTAGE SELECT Switch	220V

NOTES:

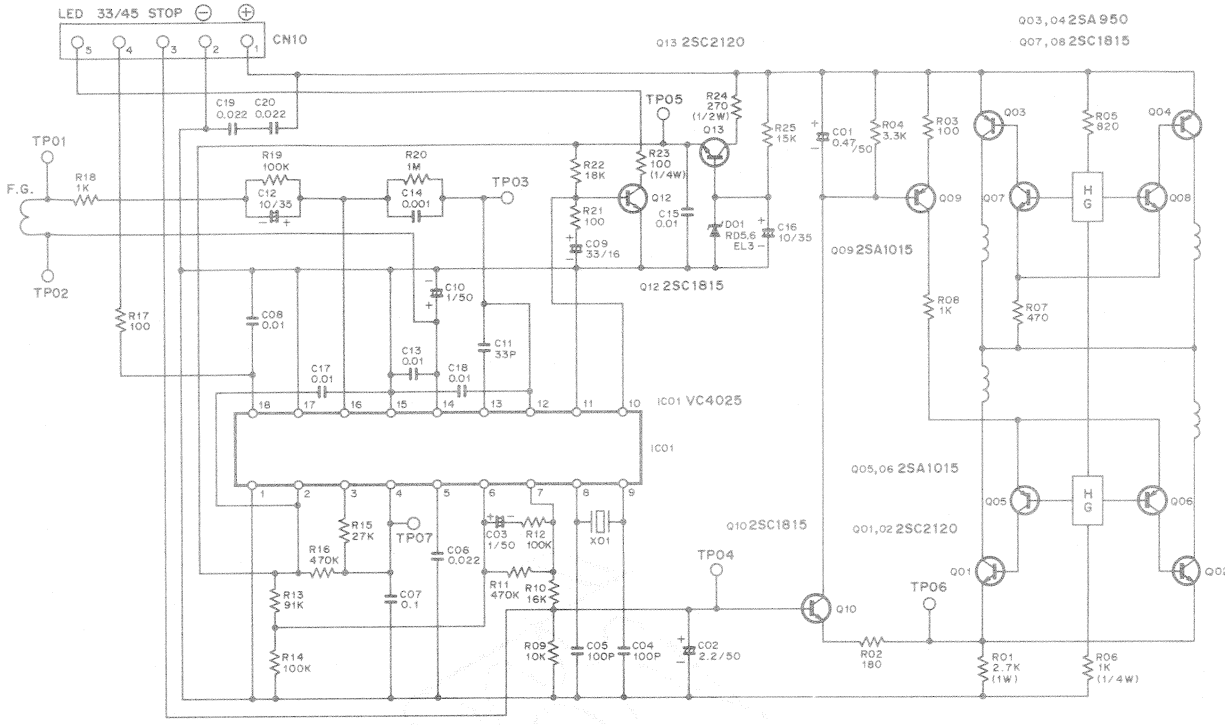
1. All resistors values are indicated in "ohm" (K=10^3, M=10^6).
2. All capacitors values are indicated in "μF" (P=10^{-12}).
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10 % with respect to chassis ground
   c. No signals at input terminals
   d. AC input at 220 volts 50 Hz
4. This is a basic schematic diagram.

Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.

POINT TO POINT WIRING DIAGRAM

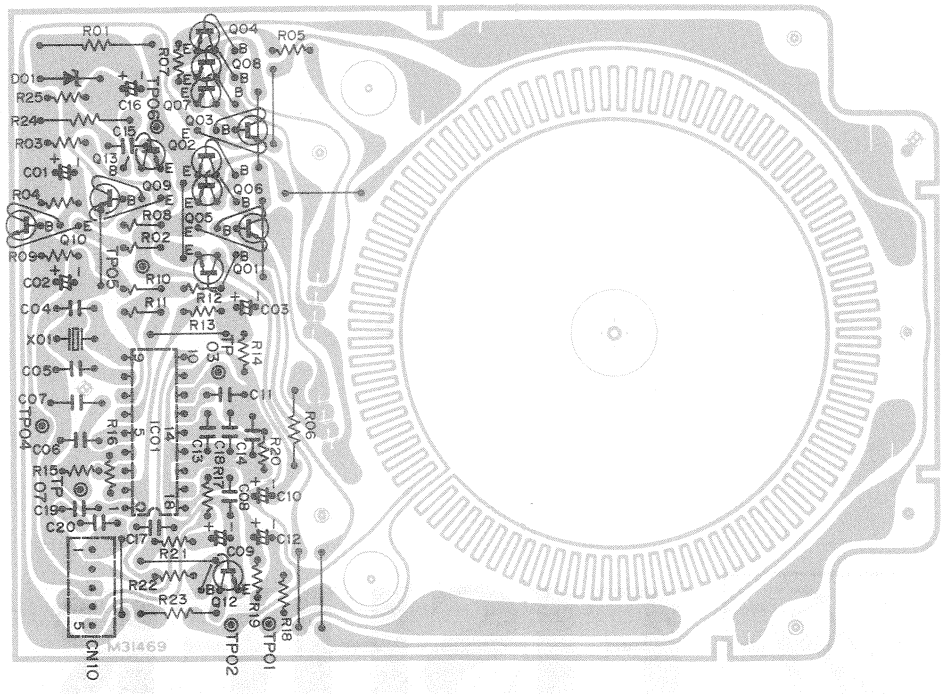


MOTOR ASSY SCHEMATIC DIAGRAM



MOTOR ASSY P.C.BOARD

(BOTTOM VIEW)



CAUTION

Should the Servo motor, control P.C.B. assembly or any of the transistors, diodes, volume controls, resistors, capacitors, etc. installed on the control P.C.B. assembly develop trouble, do not replace only the faulty parts but the motor and the control P.C.B. assembly as well.

This is necessary because the control P.C.B. assembly is finely adjusted to match the performance characteristics of the motor. If only the faulty parts have been replaced, we shall not be held responsible for deterioration in the performance of the unit.